

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

1. (cancelled).
2. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that the Mn/Si ratio is greater than or equal to 3.
3. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that the thin strip is cast on a casting installation between two internally cooled rolls rotating in opposite directions.
4. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that hot-rolling of the strip is carried out in line with the casting of the strip.
5. (currently amended): Process according to ~~claim 1~~claim 6, characterised in that the rate V of forced cooling after hot-rolling is such that
$$V \geq e^{1.98(\%Cu) - 0.08}$$
wherein V is expressed in °C/s and %Cu in % by weight.
6. (currently amended): ~~Process according to claim 1~~A Process for manufacturing a steel product made of copper-rich carbon steel, wherein:

- a liquid steel is produced, which has the following composition, expressed as percentages by weight:

\*  $0.1 \% \leq C \leq 1\%$

\*  $0.5 \leq Cu \leq 10\%$

\*  $0 \leq Mn \leq 2\%$

\*  $0 \leq Si \leq 5\%$

\*  $0 \leq Ti \leq 0.5\%$

\*  $0 \leq Nb \leq 0.5\%$

\*  $0 \leq Ni \leq 5\%$

\*  $0 \leq Al \leq 2\%$

the remainder being iron and impurities resulting from production;

- this liquid steel is cast directly into the form of a thin strip having a thickness less than or equal to 10 mm;

- the strip is cooled rapidly to a temperature less than or equal to 1000°C by spraying with water or a water/air mixture;

- the thin strip is subjected to hot-rolling at a reduction rate of at least 10%, the end-of-rolling temperature being such that, at this temperature, all the copper is still in a solid solution in the ferrite and/or austenite matrix;

- the strip is subjected to forced cooling so as to keep the copper in a supersaturated solid solution in the ferrite and/or austenite matrix;

- and the strip thus cooled is coiled, characterised in that the carbon content of the steel is between 0.1 and 1% and in that the strip is coiled at a temperature higher than the temperature  $M_s$  at the beginning of martensitic transformation.

7. (cancelled).

8. (currently amended): ~~Process according to claim 7A~~ Process for manufacturing a steel product made of copper-rich carbon steel, wherein:

- a liquid steel is produced, which has the following composition, expressed as percentages by weight:

\*  $0.1 \% \leq C \leq 1\%$

\*  $0.5 \leq Cu \leq 10\%$

\*  $0 \leq Mn \leq 2\%$

\*  $0 \leq Si \leq 5\%$

\*  $0 \leq Ti \leq 0.5\%$

\*  $0 \leq Nb \leq 0.5\%$

\*  $0 \leq Ni \leq 5\%$

\*  $0 \leq Al \leq 2\%$

the remainder being iron and impurities resulting from production;

- this liquid steel is cast directly into the form of a thin strip having a thickness less than or equal to 10 mm;

- the strip is cooled rapidly to a temperature less than or equal to 1000°C by spraying with water or a water/air mixture;

- the thin strip is subjected to hot-rolling at a reduction rate of at least 10%, the end-of-rolling temperature being such that, at this temperature, all the copper is still in a solid solution in the ferrite and/or austenite matrix;

- the strip is subjected to forced cooling so as to keep the copper in a supersaturated solid solution in the ferrite and/or austenite matrix;

- and the strip thus cooled is coiled at less than 300°C,  
- the strip is subjected to a copper precipitation heat treatment at between 400  
and 700°C, characterised in that the carbon content of the steel is between 0.1 and 1% and in  
that wherein the strip is subjected to precipitation heat treatment without being uncoiled  
beforehand.

9. (cancelled).

10. (currently amended): Process according to ~~claim 9~~claim 13, characterised in that  
said precipitation tempering is carried out at between 600 and 700°C in a continuous annealing  
installation.

11. (currently amended): Process according to ~~claim 9~~claim 13, characterised in that  
said precipitation tempering is carried out at between 400 and 700°C in a batch annealing  
installation.

12. (cancelled):

13. (previously presented): ~~Process according to claim 9~~ A Process for manufacturing a  
steel product made of copper-rich carbon steel, wherein:

- a liquid steel is produced, which has the following composition, expressed as  
percentages by weight:

\*  $0.1 \% \leq C \leq 1\%$

\*  $0.5 \leq Cu \leq 10\%$

\*  $0 \leq \text{Mn} \leq 2\%$

\*  $0 \leq \text{Si} \leq 5\%$

\*  $0 \leq \text{Ti} \leq 0.5\%$

\*  $0 \leq \text{Nb} \leq 0.5\%$

\*  $0 \leq \text{Ni} \leq 5\%$

\*  $0 \leq \text{Al} \leq 2\%$

the remainder being iron and impurities resulting from production;

- this liquid steel is cast directly into the form of a thin strip having a thickness less than or equal to 10 mm;

- the strip is cooled rapidly to a temperature less than or equal to 1000°C by spraying with water or a water/air mixture;

- the thin strip is subjected to hot-rolling at a reduction rate of at least 10%, the end-of-rolling temperature being such that, at this temperature, all the copper is still in a solid solution in the ferrite and/or austenite matrix;

- the strip is subjected to forced cooling so as to keep the copper in a supersaturated solid solution in the ferrite and/or austenite matrix;

- and the strip thus cooled is coiled at less than 300°C, wherein coiling of the strip is carried out at a temperature which is both higher than the temperature  $M_s$  at which the martensitic transformation begins and lower than 300°C, and is followed by cold-rolling, recrystallization annealing in a temperature range where the copper is in a supersaturated solid solution, forced cooling to keep the copper in a solid solution and precipitation tempering characterised in that the carbon content of the steel is between 0.1 and 1%.

14. (cancelled).

15. (currently amended): Process according to ~~claim 9~~claim 13, characterised in that the carbon content of the steel is between 0.0005% and 0.05% and in that wherein its copper content is between 0.5 and 1.8%.

16. (original): Process according to claim 15, characterised in that, prior to precipitation hardening, the strip is cut to form a sheet which is shaped by drawing, and in that precipitation tempering is carried out on the drawn sheet.

17-18. (cancelled).

19. (new): Process according to claim 8, characterised in that the Mn/Si ratio is greater than or equal to 3.

20. (new): Process according to claim 8, characterised in that the thin strip is cast on a casting installation between two internally cooled rolls rotating in opposite directions.

21. (new): Process according to claim 8, characterised in that hot-rolling of the strip is carried out in line with the casting of the strip.

22. (new): Process according to claim 8, characterised in that the rate V of forced cooling after hot-rolling is such that

$$V \geq e^{1.98(\%Cu)-0.08}$$

wherein V is expressed in °C/s and %Cu in % by weight.

23. (new): Process according to claim 13, characterised in that the Mn/Si ratio is greater than or equal to 3.

24. (new): Process according to claim 13, characterised in that the thin strip is cast on a casting installation between two internally cooled rolls rotating in opposite directions.

25. (new): Process according to claim 13, characterised in that hot-rolling of the strip is carried out in line with the casting of the strip.

26. (new): Process according to claim 13, characterised in that the rate V of forced cooling after hot-rolling is such that

$$V \geq e^{1.98(\%Cu)-0.08}$$

wherein V is expressed in °C/s and %Cu in % by weight.